

Template “D” – Repair of Equipment

Statement of Work

Requisition Number: 210693

Repair of Equipment Revision Number: 0

Date: June 02, 2010

1.0 Scope and Deliverables

The Subcontractor shall supply all material, parts, and labor necessary to satisfactorily repair the following equipment in accordance with the terms and conditions of this Contract.

Three portable exhausters (POR-107, POR-126, and POR-127) were designed and construction was completed in 2005 at Premier Technology Inc. of Pocatello, Idaho. Funding was cut before the exhausters could be fully accepted by CH2MHill. Some NEC and minor mechanical issues were identified to be corrected before these systems could be fully accepted and determined to be operational. The exhausters were placed into a long-term storage condition before the project was discontinued.

The exhausters were not fully accepted and now are required to be retrofitted to the current codes and standards of today. The work scope will include correcting the deficiencies from the original work scope; replacement of parts that have been reallocated for other uses and failed due to prolonged storage, and bring the exhausters into current code compliance.

Electrical upgrades are needed. The exhausters were originally built under a previous NEC edition. The subcontractor will be required to inspect the electrical system of each exhauster and bring any deficiencies up to current NEC code. Known work activities include the following:

- Receive exhausters from customer
- Assess condition and develop detailed work plans
- Furnish/install missing/worn name tags (new name tags as applicable)
- Ensure all cabinets are watertight
- Pre-Test Exhauster
- Upgrade Software to support HMI interfaces
- Verify software and make changes required to support retrieval activities
- Perform Calculations for fabrication work as required
- GEMS Modification
- Calibrate instrumentation
- Furnish/install any replacement parts as needed
- Verify Configuration to H-14 Drawings and DMJM Cad files

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- Complete fabrication work as needed
- Perform Exhaust Train Pressure Decay Test and repair as required
- Perform fan vibration tests
- 120-hour continuous run test. All three portable exhauster units may be run-tested simultaneously. Correct any deficiencies.
- Perform Factory Acceptance Tests provided by the customer.
- Create and Issue Test Reports.
- Package and load exhausters for shipment. The customer will ship exhausters back to 200E.
- A controlled lift procedure will be provided by the customer
- The shop modification and testing are to be supported by WRPS project manager and Engineering staff and instrumentation Technicians as required.
- The vendor shall provide required documentation to the customer such as Quality records, Calibration data, Test results/Reports and Certified Material Test Reports (CMTR's), M&TE equipment certifications, etc.
- Additional activities may be required to bring the exhauster into compliance with the current AG-1, N-509/N510, NEC 2005, and the Washington State Administrative codes WAC 246/247 as they are identified.
- The bid proposals shall include the fully burdened labor rates for all applicable categories for potential additional work activities that are identified during the course of upgrading the exhausters and are not specifically identified within this statement of work (SOW).
- The approved red-line process will be used in lieu of engineering change notices, ECN's. All red-lines shall be approved by WRPS before return shipment.

Subcontractor shall prepare and submit a detailed work plan for each exhauster. The work plan shall be reviewed and approved by WRPS prior to commencing work on the associated exhauster.

APPLICABLE DOCUMENTS

The following codes and standards, including documents referenced therein, form a part of the Basis of Design as specified in the applicable sections of this document. The most current revisions shall be used. In the event of conflict between documents referenced herein and the requirements of this specification, the requirements of this specification shall take precedence. Exceptions to any of these codes/standards or any portion(s) thereof shall be allowed only as provided and approved by the buyer.

NATIONAL CODES AND STANDARDS

ASCE 7-02	Minimum Design Load for Building and Other Structures
AISC 316/317	Manual of Steel Construction
AISI SG503	Design and Fabrication of Cold-Formed Steel Structures

AMCA 99	Standards Handbook, Publication 99
ANSI B16.5a-1998	Pipe Flanges and Flanged Fittings
ANSI N13.1-1999	Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities
ANSI Y14.1-1995	American National Standard Drawing Sheet Size and Format
ANSI Y14.5M-1994	Dimensioning and Tolerancing
ANST-SNT-TC-I A	American Society for Non-Destructive Testing
ASME B31.3-2002	Process Piping
ASME, SEC II, Part C-2003	Process Piping Weld Filler Material
ASME, BPVC, SEC IX-2003	Welding and Brazing Qualifications
ASME N509-2002	Nuclear Power Plant Air Cleaning Units and Components
ASME N510-1991	Testing of Nuclear Air Treatment Systems
ASME AG-1-2003	Code on Nuclear Air and Gas Treatment
ASME AG-1-1a-2004	Code on Nuclear Air and Gas Treatment Addenda
ASME NQA-1-2000	Quality Assurance Program Requirements for Nuclear Facilities
ASTM A182-2004	Standard Specification for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service
ASTM A240-2004	Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels
ASTM A312-2004	Standard Specification for Seamless and Welded Austenitic Stainless Steel Pipes
ASTM A36-2004	Standard Specification for Carbon Structural Steel
ASTM A403-2004	Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings

ANSUABMA, 11-1999	Load Ratings and Fatigue Life for Roller Bearings
AWS D1.1-2004	Structural Welding Code
AWS D1.2-2003	Structural Welding Code - Aluminum
AWS D1.3-1998	Structural Welding Code - Sheet Steel
AWS D9.1-2000	Specification for the Welding of Sheet metal
AWS QC-1-1996	Standard and Guide for Qualification & Certification of Welding Inspectors
DOE-RL-92-36	Hanford Site Hoisting and Rigging Manual
DOE-STD-1020	Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities
ERDA 76-21	Nuclear Air Cleaning Handbook
IEEE 112-1996	Test Procedure for Polyphase Induction Motors and Generators
ISA 5.4-1991	Instrument Loop diagrams
ISA 5.1-1992	Instrumentation Symbols and Identifications
ISO-1940-1-2004	Mechanical Vibration - Balance Quality Requirements of Rigid Rotors
MICA	Midwest Insulation Contractors Association
MIL-STD-889B	Dissimilar Metals
MIL-STD-1472F	Human Engineering
NCIG-01	Visual Weld Acceptance Criteria for Structural Welding at Nuclear Power Plants
NEMA MG-1-2003	Motors and Generators
NFPA 70-2005	National Electrical Code
NFPA 77-2002	Recommended Practice on Static Electricity
NFPA 79-2002	Electrical Standard for Industrial Machinery
NUREG 0700	The Human-System Interface Design Review Guideline

SMACNA, 1481-1997	HVAC Duct Construction Standards Metal and Flexible
SNT-TC-1A-2001	ASNT's Guideline to Personnel Qualification and Certification in NDT
SSPC SP 3-2000	Power Tool Cleaning
UL 508-2003 UL	Standard for Safety Industrial Control Equipment Seventeenth Edition
40CFR52	Protection of Environment
40CFR60, Method 1, 1A, 2, 2C	Sampler Location and Placement Design Criteria
40CFR61	National Emission Standards for Hazardous Air Pollutants
WAC 246-247	Washington Administrative Code (WAC), Radiation Protection – Air Emissions

2.0 Off Site Shipping Authorization

Part and Tool Return Number: 26065

3.0 ES&H Requirements:

Hanford site access is not authorized for work to be completed under this SOW.

The TOC is required to conduct work in accordance with a Quality Assurance Program (QAP) that meets the Quality Assurance criteria specified in DOE O. 414.1, *Quality Assurance*, 10 CFR 830, *Nuclear Safety Management*, Subpart A, “*Quality Assurance Requirements*”, paragraph 830.122 and also meets the requirements of ASME NQA-1-2004, *Quality Assurance Requirements for Nuclear Facility Applications*. The Subcontractor shall implement an NQA-1-2004 program (as identified below) and be listed on an ESL for this scope of work:

Criterion #	Criterion Title	All Sections	Specific Sections as Listed:
1	Organization	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Quality Assurance Program	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
3	Design Control	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100

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4	Procurement Document Control	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
5	Instructions, Procedures, and Drawings	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
6	Document Control	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
7	Control of Purchased Items and Services	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
8	Identification and Control of Items	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
9	Control of Processes	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
10	Inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
11	Test Control	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
12	Control of Measuring and Test Equipment	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
13	Handling, Storage, and Shipping	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
14	Inspection, Test, and Operating Status	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
15	Control of Nonconforming Items	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
16	Corrective Action	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17	Quality Assurance Records	<input type="checkbox"/>	<input checked="" type="checkbox"/> 100
18	Audits	<input type="checkbox"/>	<input type="checkbox"/>
Subpart 2.7	Computer Software for Nuclear Facility Applications	<input type="checkbox"/>	<input type="checkbox"/>

Note: Subcontractors may have in place quality systems based on other recognized QA requirements or standards in the context of commercial, nuclear industry, DOE, or EPA practices, such as 10 CFR 50 Appendix B, ANSI/ISO/ASQ ISO 14000, ANSI/ASQC E4, ANSI/NCSL Z540, etc.

QAP Approval:

The Subcontractor's QAP shall be subject to review at all times by Buyer, including prior to award.

Changes to the Subcontractor's QAP:

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The Subcontractor shall, during the performance of this Subcontract, submit proposed changes to the quality assurance program to the Buyer for review prior to implementation.

Procurement Quality Clauses:

The following Quality Assurance clauses apply –

- B16 Source Inspection
- B22 Nonconformance Reporting
- B52 Inspection and Test Reports
- B61 Certification of Calibration
- B65 NRTL Labeled or Listed
- B73 Control of Graded Fasteners
- B76 Procurement of Potentially Suspect or Counterfeit Items
- B79 Certificate of Conformance
- B82 Recommended Spare Parts Listing

Acceptance of Items:

A combination of on-site inspections (source inspections) and receipt inspection by WRPS shall be used to accept the exhausters. WRPS feedback on the subcontractor's work plans shall identify appropriate hold points for WRPS source inspections. The subcontractor is required to provide five working days' notice for such hold points.

3.1 Price-Anderson Amendments Act Requirements:

The subcontractor shall comply with the Article entitled *Price-Anderson Amendments Act (PAAA)* contained in the General Provisions and shall have a process in place to ensure compliance with the applicable Nuclear Safety Rules.

This process may either include an internal PAAA evaluation of the nuclear safety rule noncompliance with a recommendation of reportability to TOC or provide data/information to TOC for the PAAA evaluation determination. At a minimum, the form for nuclear safety rule noncompliance reporting shall include the following information:

- Title, location and description of the noncompliant condition,
- Date, time and organization that discovered the noncompliant condition,
- Subcontractor point of contact for the noncompliant condition,
- Nuclear safety rules/requirement not satisfied,
- List of all compensatory measure taken,
- Causal factors identified,

- List of planned corrective actions.

Subcontractor personnel shall be trained to the nuclear safety rules consistent with their specific position and assigned work.

4.0 Cost Limitations

The cost of the repairs is not to exceed the subcontract value unless approved by the buyer.